1. (Currently amended) A scanner comprising:

a laser source;

a spinner for reflecting light from the laser source, the spinner being rotated by a motor;

a set of pattern mirrors for receiving light reflected from the spinner and reflecting the light to produce a scan pattern;

a diffractive element for receiving light reflected from the spinner when the spinner is in a reference position and refracting the light to produce a diffracted beam; ~~and~~

a reference position photodetector for receiving the refracted beam and producing a reference position signal indicating that the spinner is in the reference position; and

a controller operative to receive the reference position signal and to determine that the scanner is in the reference position upon receiving the reference position signal, to deactivate the laser source upon receiving the reference position signal, and to note the time at which the reference position signal occurs and to compute a position of the spinner based on the speed of the spinner and the time elapsed since the reference position photosignal was received by the controller.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently amended) The scanner of claim 4 1 wherein the diffractive element is a diffraction grating.

6. (Original) The scanner of claim 5 and also including a switch for selecting between an omnidirectional scan pattern and a single line scan pattern.

7. (Original) The scanner of claim 6 further comprising a baffling aperture in the vicinity of the reference position photodetector, the baffling aperture shielding the reference position photodetector from light other than the diffracted line in order to prevent an incorrect identification of a reference position of the spinner.

8. (Original) The scanner of claim 7 wherein the diffractive element is positioned at an edge of one of the set of pattern mirrors and is very small relative to the set of pattern mirrors.

9. (Original) The scanner of claim 8 wherein the diffractive element is positioned at an intersection between

two pattern mirrors of the set of pattern mirrors.

10. (Currently amended) A method of scan pattern generation, comprising:

activating a laser source within a scanner to generate a laser beam, the laser source being oriented to produce a laser beam directed toward a rotating spinner within the bar code scanner;

reflecting the laser beam from the spinner to produce a reflected beam;

when the spinner is in the reference position, directing the reflected beam to a diffractive element to produce a diffracted line and directing the diffracted line to a reference position photodetector to produce a reference position photosignal indicating that the spinner is in the reference position; ~~and~~

deactivating the laser source when the reference position photosignal is produced

computing the position of the spinner during rotation of the spinner based on the speed of the spinner and the time elapsed since the reference position signal was produced.

11. (Cancelled)

12. (Currently amended) The method of claim ~~11~~ 10 further comprising the step of activating and deactivating the laser source when the spinner is in appropriate positions, in order to generate a desired scan pattern.

13. (Original) The method of claim 12 wherein the diffractive element is a diffraction grating.

14. (Currently amended) A method of determining a reference position of a rotating spinner within a bar code scanner, comprising:

activating a laser source within a scanner to generate a laser beam, the laser source being oriented to produce a laser beam directed toward the spinner;

reflecting the laser beam from the spinner to produce a reflected beam;

when the spinner is in the reference position, directing the reflected beam to a diffractive element to produce a diffracted line and directing the diffracted line to a reference position photodetector to produce a reference position photosignal indicating that the spinner is in the reference position

noting the time at which the reference position photosignal occurs.

15. (Cancelled)